



## Climate change influences on marine infectious diseases: Implications for management and society

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### Abstract:

Infectious diseases are common in marine environments, but the effects of a changing climate on marine pathogens are not well understood. Here we review current knowledge about how the climate drives host-pathogen interactions and infectious disease outbreaks. Climate-related impacts on marine diseases are being documented in corals, shellfish, finfish, and humans; these impacts are less clearly linked for other organisms. Oceans and people are inextricably linked, and marine diseases can both directly and indirectly affect human health, livelihoods, and well-being. We recommend an adaptive management approach to better increase the resilience of ocean systems vulnerable to marine diseases in a changing climate. Land-based management methods of quarantining, culling, and vaccinating are not successful in the ocean; therefore, forecasting conditions that lead to outbreaks and designing tools/approaches to influence these conditions may be the best way to manage marine disease.

**Source:** <http://dx.doi.org/10.1146/annurev-marine-010213-135029>

### Resource Description

#### Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Food/Water Quality, Food/Water Quality, Food/Water Security, Precipitation, Temperature

**Food/Water Quality:** Pathogen, Pathogen, Other Water Quality Issue

**Water Quality (other):** acidification

**Food/Water Security:** Other Marine Productivity

**Temperature:** Fluctuations

#### Geographic Feature:

resource focuses on specific type of geography

Ocean/Coastal

#### Geographic Location:

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resource focuses on specific location

Global or Unspecified

## **Health Impact:**

specification of health effect or disease related to climate change exposure

Infectious Disease

**Infectious Disease:** Foodborne/Waterborne Disease

**Foodborne/Waterborne Disease:** Vibrios

## **Mitigation/Adaptation:**

mitigation or adaptation strategy is a focus of resource

Adaptation

## **Resource Type:**

format or standard characteristic of resource

Review

## **Timescale:**

time period studied

Time Scale Unspecified

## **Vulnerability/Impact Assessment:**

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content